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Reinstatement of the B-4 SAMOS Requirement

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1. The impact of the deletion of the B-4 package (mapping and charting) from SAMOS by ARPA has caused considerable concern to this Headquarters and the Strategic Air Command. The requirement for the mapping and charting system to provide positional data during the time period 1962 - 63 for the operational use of the ICBM, ICBM, and the SAC manned strike force is considered critical. Thus, it is vital that the B-4 system be reinstated in the SAMOS program to provide an operational capability early in 1961.

2. The intelligence requirement has been stated several times in numerous documents to elements of ARPC and the Air Staff. However, I feel that a recap of these requirements is appropriate at this time.

3. Energetic Air Force programs to obtain and reduce positional data will assure the most effective use of the missile forces. These efforts are directed in full recognition of the missile forces, various collection programs, present state of the art, and operational plans. To date the data from these programs insure that missile effectiveness will not be degraded by the lack of positional data. In light of present developments, the Air Force can anticipate a continued ability to support its weapon systems during the next two years.

4. By 1962, it is anticipated that missile inventories will increase, CEPs will decrease, and target systems will continue to shift from area to area. To insure maximum flexibility and effectiveness of the total strike force, accurate positional data over the entire Eurasian land mass will be required. But accurate data must be amenable to the application of other data; furthermore, maximum effort should be taken to insure the utility of any product for more than one purpose. In this regard, the Air Force continues to state a need for a mapping satellite in the 1962 period.

SECRET

10

5. Natural progression in the requirements and satisfaction of requirements was reflected in the SAMOS E-4 system. The ground resolution, area coverage, and altitude of operation were all considered to establish the optimum parameters for satisfaction of the requirements for ATLAS, TITAN, MINUTE MAN, THOR, and JUPITER operations. In addition, the needs of the B-52, B-47, and DYNA SOAR were projected. Various guidance systems such as ATRAN, Fingerprint, and Pinpoint also provided parameters for the mapping requirements. Thus, the E-4 system provided the following:

a. Large area coverage on one photo. Thus a minimum number of models were required for extension of geodetic control.

b. Resolution of approximately 150' permits the use of classical photo extension techniques as well as area matching techniques.

c. Resolution permits accurate mapping at required scale of 1:200,000 except for intelligence detail.

d. Resolution permits perusal of area for intelligence indicators. These indicators obtainable by other systems provide the leads to employment of large scale photography.

6. The many elements considered in the development of the mapping requirements and subsequent E-4 SAMOS system, insured that the U.S. Air Force would have available an integrated satellite reconnaissance package. The package insured that maximum benefits would be available from each program. Though Project "A" may provide basic control to accuracies of 1000', even accuracies of 600' beyond the 1963 will be marginal.

7. It is recommended that every effort be made to re-establish the SAMOS mapping system. The E-4 system provides an integrated package which will satisfy stated Air Force requirements during the 1962 period. In addition, it provides a base for further improvements to meet projected increases in accuracy requirements. Though some benefits will be gained through employment of Project "A", long range Air Force requirements dictate developments in line with the deferred SAMOS program.

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